Flight Research of Hyperelastic Materials (FY16)

Completed Technology Project (2015 - 2016)

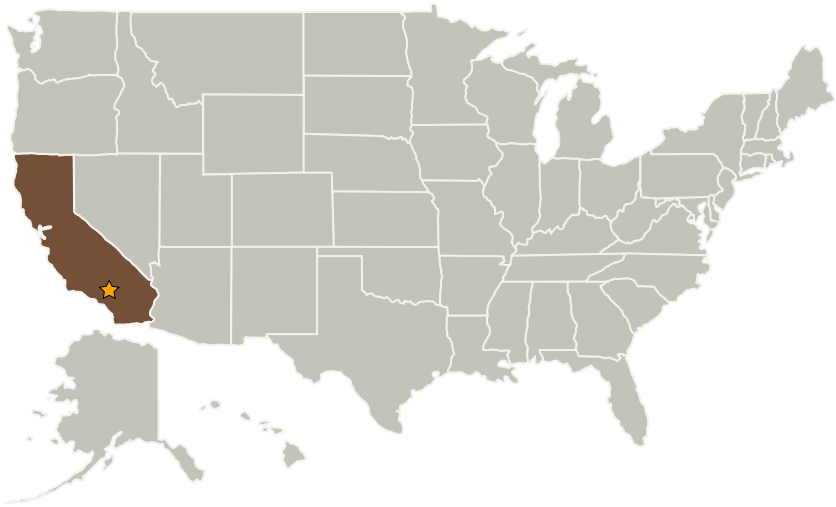
Project Introduction

1) Design/formulate an experiment to install various size panels of hyperelastic material with various stretch ratios applied on F-15B FTF. 2) Execute several flights to supersonic speeds to evaluate panel flutter frequencies and speeds of hyperelastic panels.

Anticipated Benefits

Potential Applications: Launch Propulsion Systems, EDL, Modeling, advanced modeling, simulation, information & processing configuration to surpass conventional technologies, lightweight structures

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Armstrong Flight Research Center(AFRC)	Lead Organization	NASA Center	Edwards, California

Primary U.S. Work Locations
California

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Project Website:

https://www.nasa.gov/directorates/spacetech/home/index.html

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Armstrong Flight Research Center (AFRC)

Responsible Program:

Center Innovation Fund: AFRC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

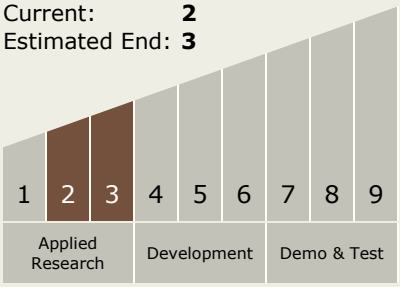
David F Voracek

Principal Investigator:

Claudia Y Sales

Technology Maturity (TRL)

Start: **2**
Current: **2**
Estimated End: **3**



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Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.3 Aero Propulsion
    - TX01.3.8 All Electric Propulsion